

RETAIL SUBSCRIPTION IN INTERNET OF THINGS ENVIRONMENT

RELATED APPLICATIONS

[0001] This invention claims priority to U.S. provisional patent application Ser. No. 62/247,878, filed Oct. 29, 2015, entitled "Retail Subscription in Internet of Things Environment," which is included entirely herein by reference.

FIELD

[0002] The present concepts relate generally to a retail subscription model, and more specifically, to the use of an Internet of Things (IoT) environment for determining where a consumer product requiring replenishment, replacement, or upgrade may be automatically delivered to the consumer, or where new or additional consumer goods may be recommended.

BACKGROUND

[0003] In modern society where convenience is important to consumers, subscription services continue to evolve. Previous generations enjoyed some subscription services, such as the daily receipt of fresh milk directly from a local farm by a milkman. Modern subscription services include the use of computers and the Internet, where a consumer can order online a subscription of goods, ranging from wine to razors to the book-of-the-month, which may be shipped from the factory to the consumer's home.

BRIEF SUMMARY

[0004] In one aspect, provided is a method for delivery to a consumer location, comprising: applying a monitoring device to a product of interest; monitoring consumption of the product of interest; automatically determining by an item replenishment device a need for replenishment, upgrade or replacement of the product of interest from the monitoring device; and performing a replenishment, upgrade or replacement of the product of interest in response to a monitoring result, and according to a set of predefined rules.

[0005] In some embodiments, the method further comprises determining, in response to the item replenishment device determining the need for replenishment, upgrade, or replacement, a prediction pattern of demand management or time sensitive advertising.

[0006] In some embodiments, the method further comprises recommending if the item is to be recalled, or available for cross-sell.

[0007] In some embodiments, the method further comprises determining by an alert generator from the processor output those alerts that are available for safety.

[0008] In some embodiments, the method further comprises collecting by a subscription device data on tags through beacons in an area to determine where consumer goods are located and how often they are used.

[0009] In some embodiments, other data includes at least one of a product expiration date and a shelf life is executed by the item replenishment device to improve a replenishment cycle along with product consumption and future upgrade releases.

[0010] In some embodiments, the method further comprises setting item tracking guidelines.

[0011] In some embodiments, the method further comprises updating a customer profile that is used to analyze the use patterns.

[0012] In some embodiments, the method further comprises associating a tag of the plurality of tags with an item of the plurality of items at a time of purchase where purchase data may be electronically communicated at the time of the e-receipt, or receiving a result of scanning the tag; and receiving by a tag tracking device a unique identification from the tagged item, which is directed to the subscription device for processing.

[0013] In another aspect, provided is a system for item replenishment, comprising a subscription device that associates tags with items; a tag tracking device for collecting data on the tags associated with the items; and an analyzer that monitors changes in use of the items, including analyzing use patterns to determine when the items should be replenished, replaced, or upgraded.

[0014] In some embodiments, the processor recommends if the item is to be recalled, or available for cross-sell.

[0015] In some embodiments, the system further comprises a cross-selling processor.

[0016] In some embodiments, the system further comprises an alert generator for determining from the processor output what alerts are available for safety.

[0017] In some embodiments, the subscription device collects data on tags through beacons in an area to determine where consumer goods are located and how often they are used.

[0018] In some embodiments, other data including at least one of a product expiration date and a shelf life is executed by a special purpose processor of the system to improve a replenishment cycle along with product consumption and future upgrade releases.

[0019] In some embodiments, the system further comprises a tracking processor for setting item tracking guidelines.

[0020] In some embodiments, the system further comprises a customer profile generator for updating a customer profile that is used to analyze the use patterns.

[0021] In some embodiments, the subscription device associates a tag of the plurality of tags with an item of the plurality of items at a time of purchase where purchase data may be electronically communicated at the time of the e-receipt, or by receiving a result of scanning the tag whereby the tag tracking device receives a unique identification from the tagged item, which is directed to the subscription device for processing.

[0022] In another aspect, provided is an Internet of things (IoT) based subscription system, including: a tag that is associated with an item, and outputs an identifier; a reader that receives the identifier and item usage information from the tag; and a processor that monitors changes in use of the items, including analyzing use patterns to determine when the items should be replenished, replaced, or upgraded.

[0023] In some embodiments, the IoT tag includes a barcode, Bluetooth, radio frequency (RF), infrared (IR), or near field communication (NFC) device.

[0024] In some embodiments, the item usage information includes a movement of the item.

[0025] In some embodiments, the management system includes a registration module that registers the tag with a subscription program that provides for the replenishment, replacement, or upgrade of the item associated with the tag.